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**FIRST TERMINAL EXAMINATION**

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| **Unit** | **Topics** | TP | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** |
| 1 | **Scientific Learning**   * Variables and its types * Importance of control variable * Differences between fundamental unit and derived units * Dimension Analysis   Analysis of equation | 5 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart of units | 1. Class Test  2. Homework  3. Viva  4. Judgement of problem solving  5. Project work |
| 2 | **Classification of organism**   * Concept of five kingdom system * Characteristics of phylum or division of plantae & Animalia * Classification of angiosperm up to class * Classification of vertebrate up to class   Relation between organic evolution and classification of organism | 9 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart, videos, museum specimen, Herbarium, | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 3. | **Life cycle (Honey bee)**   * Describe the types of honey bee * Describe the life cycle of honey bee   Mention the importance of honey and honey bee | 4 | 1. Discussion  2. Question answer  3. Practical  4. Field visit and Demonstration | Chart, videos, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 6 | **Nature and the Environment**   * Climate change- Introduction, causes and effects * Preventive measures of climate change * Endangered animals and their conservation * Rare plants and their conservation   Medicinal plants used in ancient period and their conservation | 7 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart, videos, etc | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 7 | **Force and Motion**   * Concept of Gravitation and solving mathematical problem related to Gravitation * Introduction of acceleration due to gravity and its relation from center to the surface of the earth * Concept of Gravitational force and method to calculate weight of an object * Introduction to free fall   Concept of freefall and its application in daily life | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Problem solving | Chart, spring balance, pan balance, parachute model, etc | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 8 | **Pressure**   * Pascal Law, demonstration and application in daily life * Concept of upthrust in liquid & gas   Archimedes principle, its demonstration and application in daily life | 5 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Ureka can, pan balance, plastic bag, spring balance, hydrometer, lactometer, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 9 | **Heat**   * Introduction of thermal energy * Molecular movement and its effects in volume * Anomalous expansion of water and its importance * Concept of specific heat capacity and solving problem related with it * Working principle of thermometer * Types of thermometer – Laboratory, clinical and digital thermometer   Concept of temperature scale | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Problem solving | Beakers, thermometer, sprit lamp, tripod stand, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 14 | **Classification of elements**   * Mendeleev’s Periodic Law * Modern Periodic Law * Electronic configuration of elements (up to atomic number 20) on the basis of sub-shell * Classification of elements in modern periodic table, (Group, period, S-block, P-block, d-block and f-block) * Position of metals, non-metals and metalloid * Atomic size, electronegativity, electro positivity, valency   Reactivity of elements | 9 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart, periodic table, etc | 1. Class Test  2. Homework  3. Viva  4. Project work |
| 15 | **Chemical Reaction**   * Types of chemical reaction with examples   Factors which affect rate of chemical reaction (with example) | 6 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Laboratory apparatus like beaker, conical flask, different chemicals, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
|  | **Revision** |  |  |  |  |

**MID TERMINAL EXAMINATION**

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| **Unit** | **Topics** | TP | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** |
| 4 | **Heredity**  **a. Chromosome**   * Introduce the concept of mitosis and meiosis with their importance * Define chromosome and Gene * Differentiate between DNA & RNA * Describe sex determination in Human * Introduce the types of chromosomes   **b. Genetics**   * Mention the reasons for selecting pea plant by Mendel * Give the process of Monohybrid cross * Describe the laws of Mendel related with monohybrid cross * Introduce genetic technology and its application | 12 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart, videos, DNA model, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 10 | **Light**   * Refraction of light and its laws * Total internal refraction of light, sound and its importance * Dispersion of light, its demonstration and application in daily life * Lens, terms related to lens and ray diagrams * Ray diagrams with different position of objects and nature of image * Power of lens and magnification * Uses of convex and concave lens * Process of formation of image in human eye * Defects of eyes, causes, correction of defects with diagram * Effects of corneal injury on vision * Introduction of night blindness, colour blindness and cataract. | 12 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Drawing | Glass slab, Lenses, camera, telescope, microscope, spectacles, prism, model of human eye ball, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 13 | **Information Technology**   * Concept of digital signal, its transmission and uses * Negative Effect of digital technology * Netizenship * Different software of audio and video * Online reputation * Cutting and joining audio video | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Battery, bulb, wire, thermometer, chart, Internet, Videos, computer, software, | 1. Class Test  2. Homework  3. Viva  4. Project work |
| 16 | **Some Gases**   * Lab preparation of carbondioxide and ammonia * Properties of CO2 and NH3 * Uses of CO2 and NH3 * Acid rain:- causes, effects and control measures * Green house effects: Causes, effects and control measures | 8 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chemicals, gas preparation apparatus, match box, litmus paper, model of artificial greenhouse etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 17 | **Metals**   * Introduction of minerals and ores * Ores of iron, copper, aluminium and silver * Process of separating metals from their ores | 5 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 19 | **Chemicals used in daily life**   * Introduction and methods of food preservation * Chemicals used in cleaning (lemon, Reetha and Ash) * Soap and detergents * Insecticides and Precaution while using insecticides * Chemical pollution, causes, effects and controls | 6 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Field visit | Chemicals, lemon, reetha, ash, soap, detergents, video of chemical pollution, etc | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 12 | **The universe**   * Role of gravitational force in universe * The Big Bang Theory * The Hubble Constant * Future of universe, related to gravitation | 5 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart, videos, etc | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
|  | **Revision** |  |  |  |  |

**Pre Qualifying EXAMINATION**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Working hrs** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** |
| 5 | **Physiological Structure & Life Process**   * Blood circulation in human body   (blood, Plasma, Blood Corpuscles)  Function of blood   * Heart and its structure * Heart Attack (Risk factor, preventive measure and diagnosis) * Blood vessels * Blood circulation (Pulmonary and Systemic) * Blood pressure * Diabetes * Uric Acid | 12 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart, Videos, model of Heart, Chart of blood group, stethoscope, sphygmomanometer etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 11 | **Current Electricity and Magentism**   * Difference between AC and DC current * Effects of magnetic field in straight wire and solenoid with figure. * Introduction of magnetic force of line and magnetic flux * Concept of electromagnetic induction, its laws and application (device based in electromagnetic induction) * Working principle of dynamo and AC generator * Transformer-Structure, working principle, types and uses and solving numeric problems * Motor effect- Introduction, devices based on this principle and working principle | 12 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Field visit | Battery, wires, bulbs, fuse wire, electromagnet, electric bell, cycle dynamo, model of transformer, galavanometer, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
| 18 | **Hydrocarbon and its compound**   * Introduction of hydrocarbon with examples * Differences between saturated and unsaturated hydrocarbon * Molecular formula, structural formula, IUPAC name of hydrocarbon and their uses (up to 3 carbon atoms) * Types of alcohol on the basis of number of hydroxide * Methanol, Ethanol and Glycerol   (Molecular formula, structural formula and uses) | 6 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Chart, glycerine, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Project work |
|  | **Revision** |  |  |  |  |